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November 11, 1987

Ms. Janet Feldstein
SCP - Carlstadt Project Officer
Emergency and Remedial Response Division
U.S. Environmental Protection Agency
26 Federal Plaza
New York, New York 10278

Re: Revision No. 5
Project Operations Plan
SCP Site Remedial Investigation
Carlstadt, New Jersey

Dear Ms. Feldstein:

The following revisions to the March 4, 1987 Project Operations Plan (POP) are based on our meeting of November 5, 1987.

1. Section 7.8: Install an additional deep (till) well adjacent to MW-1S. The well will be numbered MW-1D. Collect a ground water sample per Section 7.9 for analysis in accordance with analytical program.

2. Section 7.11: Collect additional soil samples for chemical analysis. Samples will be collected at various depths from within the clay stratum at MW-1D, MW-2D, MW-5D and MW-7D. At MW-2D, one additional sample for Priority Pollutant (PP) analysis and three additional samples for Volatile Organic Analysis (VOA) will be collected. At MW-5D, one additional sample for PP and four additional samples for VOA will be collected. At MW-7D, two additional samples for PP and eight additional samples for VOA will be collected. At MW-1D, two samples will be collected for PP: top of clay and bottom of clay. Intermediate samples will be collected based on stratum thickness at this location.

3. Paragraph 7.8.5.10: Additional permeability tests will be performed on clay samples. One additional test will be performed on samples from both MW-2D and MW-5D. Four additional tests will be performed on samples from MW-7D; one of these tests will use water collected from MW-7S as the permeant, while a sample collected in the same thin-wall tube will be tested using laboratory water as the permeant. Two samples for permeability testing will be collected from MW-1D. Classification tests (liquid and plastic limits) will be performed on representative clay samples from each monitor well location.

4. Section 6.2: Add Paragraph 6.2.3 Field Blanks. The field blank consists of two sets of sample containers: one empty, one full with analyte-free water. The water is transferred, through the sampler, from the full bottles to the empty. The field blank will serve as a check on the cleanliness of sampling equipment, potential atmospheric contamination, as well as effects of sampling procedure on the analytes of interest. One field blank will be prepared per matrix for each day of sampling. Field blanks will be analyzed for the same parameters as the collected samples.

5. Section 10.0: A cleanup procedure will be used on split water samples from MW-3S, MW-6S, and MW-7S prior to a duplicate PCB analysis. The intent is to remove any floating and/or suspended material from the water sample prior to analysis. A comparison of the results from the split samples with the results from the original samples will provide an indication of any dissolved PCBs. The same cleanup procedure will be used, if required, on the water from MW-7S that will be used in a permeability test. The description of the cleanup procedure is attached.

6. Figures 4-1 and 4-2: A revised schedule for the Remedial Investigation Phase of the project is attached. Included are the resampling program and additional site investigations requested by the SCP PRP Committee.

To complete our documentation of the revisions, we request that the revisions be approved by the EPA in writing.

Very truly yours,

DAMES & MOORE

Gerard M. Coscia

Gerard M. Coscia, P.E.
Project Manager

GMC/jhm
Attachments

cc: T. Morris
T. Armstrong
W. Warren
J. Groome, NJDEP
L. Vidulich, EPA-Edison
J. Koczan

THE SEPARATION OF BIPHASIC SAMPLES PRIOR TO PHASE ANALYSIS

SUMMARY:

The analysis of the aqueous phase of a biphasic aqueous/organic sample can be complicated by the incomplete separation of the organic phase prior to extraction of the aqueous phase. The presence of imperceptible quantities of insoluble organics in an aqueous sample can severely bias the data obtained for the analysis of specific organic parameters. This bias can result in inappropriate remediation decisions for contaminated aquifers. Prior to the analysis of the aqueous phase of a biphasic aqueous/organic sample, it is essential that a physical separation of the two phases be attempted prior to extraction and analysis of the aqueous phase. The following method describes a physical separation technique that can be used to minimize that bias. It can be applied to biphasic aqueous/organic samples containing organic phases of densities either greater than or less than 1. It must be recognized that any physical technique used to separate an organic phase from an aqueous phase prior to the analysis of the aqueous phase for organic constituents will, at best, only minimize those positive biases.

APPARATUS:

- 1 liter separatory funnels
- high speed centrifuge
- 500 ml centrifuge bottles
- wax marker
- ring stand
- 6" ring clamps

PROCEDURE:

A. BIPHASIC SAMPLES WITH FLOATING ORGANIC LAYERS

Equilibrate the sample at room temperature for one hour. Transfer the entire biphasic sample from the sample container into a 1 liter separatory funnel. Allow the sample to stand for a minimum of two hours, which should provide sufficient time for the phases to separate. Mark the separatory funnel at the water organic interface with a wax pencil. Allow the sample to stand for an additional 30 minutes. If no additional phase separation occurs, the sample can be physically separated.

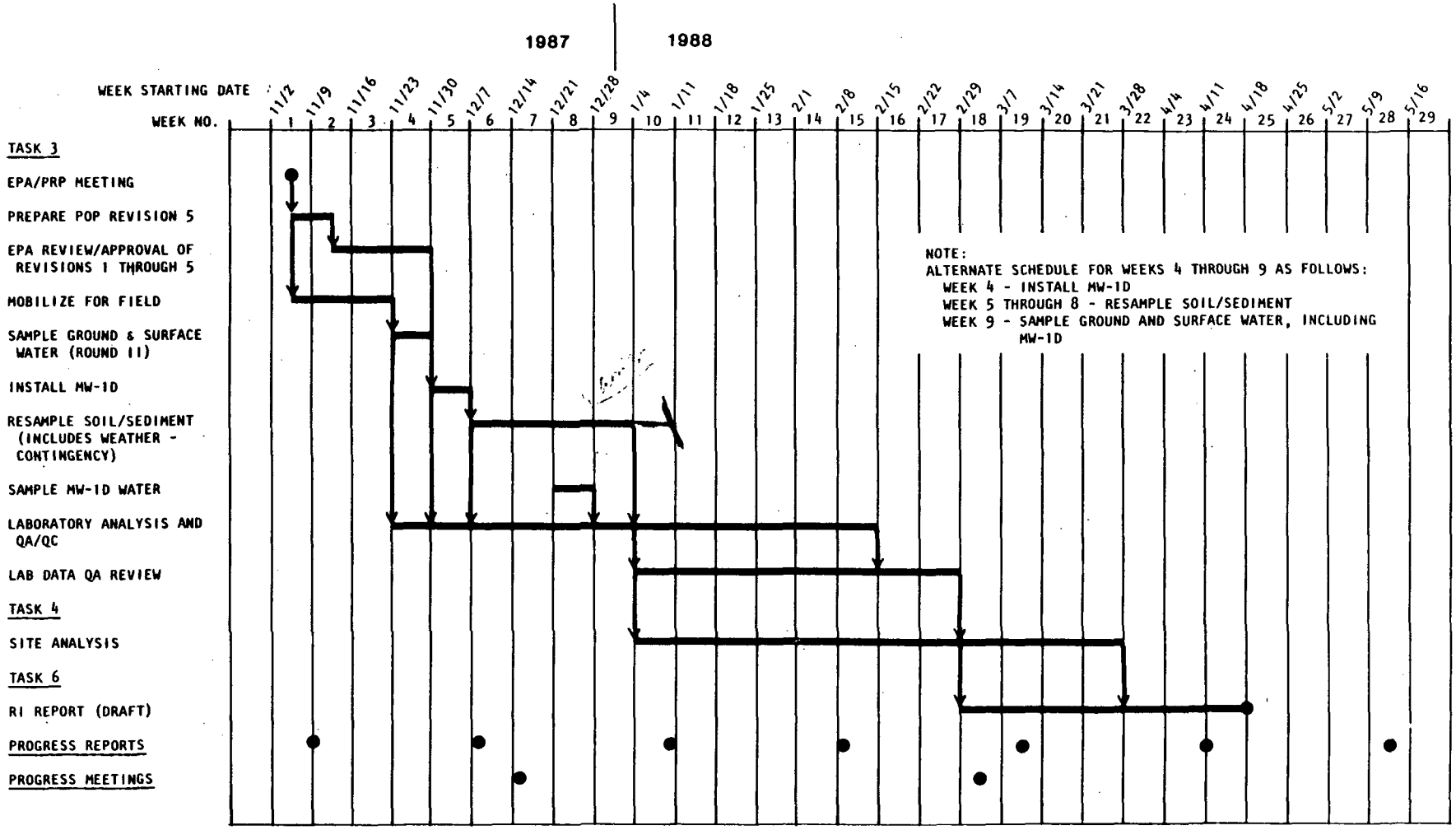
Place a second separatory funnel beneath the separatory funnel containing the sample. Slowly drain the majority of the aqueous phase into the second separatory funnel. Mark the second separatory funnel with the wax pencil at the top of the water/air interface. Proceed with the extraction of the aqueous phase using the procedures which are appropriate for the parameters of interest. Upon completion of the extraction, refill the second separatory funnel to the wax

pencil mark with tap water. Drain the water from the

separatory funnel into a graduated cylinder and record the volume of water extracted.

B. BIPHASIC SAMPLES WITH SINKING ORGANIC LAYERS

Decant the aqueous phase of the biphasic organic/aqueous sample into two 500 ml centrifuge bottles. Centrifuge the aqueous phase for 5 minutes at 20,000 RPM. Decant the aqueous phase of the sample into a 1 liter separatory funnel being careful not to transfer any of the organic phase to the separatory funnel. Allow the sample to stand in the separatory funnel for 30 minutes. If organic phase settles to the bottom of the separatory funnel, drain it off and dispose of it appropriately. Mark the height of the air water interface with a wax pencil. Proceed with the extraction scheme that is appropriate for the parameters of interest. When the extraction is completed, refill the separatory funnel with tap water to the wax pencil mark. Drain the tap water into a graduate cylinder and record the volume of water as volume extracted.



REVISED SCHEDULE
REMEDIAL INVESTIGATION RESAMPLING PROGRAM
AND ADDITIONAL SITE INVESTIGATIONS

SCP SITE
CARLSTADT, NEW JERSEY
BERGEN COUNTY, NEW JERSEY

DAMES & MOORE